

## REMARKS

Reconsideration of this application is respectfully requested in view of the foregoing amendment and the following remarks.

Claims 14-34 remain pending in this application. Claims 14, 18, 20, 23, 25, 29 and 31-33 have been amended to further clarify features of the present invention. Support for the amended and new claims can be found throughout the specification and drawings. No new matter has been presented. Upon entry of this Amendment, claims 14-34 will be pending herein and, for the reasons set forth below, are all believed to be in condition for allowance.

In the Office Action mailed March 5, 2009,

- Claims 14-17, 19-22 and 24 were rejected under 35 U.S.C. §103(a) as being unpatentable over Diab et al. (US 6,229,856; “Diab”) in view of Wang et al. (US 6,226,365; “Wang”);
- Claims 18 and 23 were rejected under 35 U.S.C. §103(a) as being unpatentable over Diab in view of Wang and further in view of Czaja et al. (US 6,567,666; “Czaja”).
- Claims 25, 26, 28-30, 32 and 34 were rejected under 35 U.S.C. §103(a) as being unpatentable over Diab et al. (US 6,229,856; “Diab”) in view of Eom et al. (US 6,625,279; “Eom”);
- Claim 27 was rejected under 35 U.S.C. §103(a) as being unpatentable over Diab et al. (US 6,229,856; “Diab”) in view of Eom et al. (US 6,625,279; “Eom”) and further in view of Nguyen et al. (US 5,321,559; “Nguyen”); and
- Claims 31 and 33 were rejected under 35 U.S.C. §103(a) as being unpatentable over Diab in view of Eom and further in view of Czaja et al. (US 6,567,666; “Czaja”).

These grounds of rejection are respectfully traversed.

As noted in Applicant’s prior response, the present invention provides a mixed signal chip 10 to process received radio signals of a given one of two receiver systems (e.g., one in accordance with UMTS (3G) and another in accordance with GSM (2G)). Based on the given receiver system, the invention selects an appropriate configuration for various components,

including, for example, an ADC, Decimator, FIR filter, and Sample Rate Adaption unit. (See Figs. 1-3.)

Diab discloses a multi-channel signal demodulation apparatus used in a pulse oximetry system. Diab mainly discloses a premodulation sample rate compression process (1621, 1820) to reduce the complicated design of a postmodulation sample rate compression process (see Diab at Figs. 16 - 18). Diab also discloses an Adaptive Algorithm (1850) that is responsive to, e.g., environmental noise, and that selects factors (R1, R2), and filter transfer functions for an adaptive decimator 1820, 1830, 1834, and 1840 to improve the quality of the output signals (see Diab at col. 29, lines 49-64).

Wang discloses a CDMA receiver for receiving an encoded CDMA signal, the receiver comprising an analog to digital converter for sampling a received signal and a CDMA decoder including a plurality of sets of correlators.

Eom discloses an echo path delay estimating apparatus and method for estimating the echo path delay and canceling an echo.

**Arguments with respect to claims 14 and 20.**

**1. Diab and Wang do not disclose the subject matter recited in claims 14 and 20.**

Claims 14 and 20 recite an "Apparatus for preparing a signal, which is one of the UMTS signal and GSM signal..." Diab discloses a multi-channel signal demodulation apparatus used in a pulse oximetry system. And Wang discloses a CDMA receiver, which could not process GSM signal.

**2. Diab does not disclose the filter recited in claims 14 and 20.** The filter in claims 14 and 20 must be "capable of filtering the signal in **both a first manner which is required when the receiver is a UMTS receiver** and **a second manner which is required when the receiver is a GSM receiver**". That is, the claimed filter is configured to filter different type signals based on the UMTS receiver or the GSM receiver. In contrast, and as the Examiner noted in the non-final Office Action (at page 3), Diab describes a set of filters that are filtering with respect to different demodulating signals and the corresponding channel mixers. Accordingly, a given

individual filter in Diab is not capable of filtering GSM signal or UMTS signal. As such, in Diab, the filter cannot be configured to serve signal types for the UMTS and GSM receivers.

3. **Diab does not disclose the adjuster recited in claims 14 and 20.** The adjuster in claims 14 and 20 “is adapted to perform adjustments to the sample rate when the receiver is the GSM receiver”, where “the adjustments comprise altering the sample rate before the signal is filtered to permit the filter to perform filtering in the second manner and altering the sample rate after the signal has been filtered to provide the signal with a sample rate required by the GSM receiver”. The adjuster only acts when the receiver is a GSM receiver. For example, when the received signal is a UMTS signal, the signal does not need the sampling process before or after the signal is filtered (see Fig. 2); but when the received signal is a GSM signal, the signal does need the sampling process before and after the signal is filtered (see Fig. 3). Diab describes a methodology that adjusts the factors of predemodulation sample compression and postdemodulation according to environmental noise, which has nothing at all to do with a UMTS receiver or a GSM receiver. **Moreover, and perhaps even more significantly, Diab always requires the sample process, but the claimed invention relies on a sample process only when the receiver is a GSM receiver.**

Based on the foregoing clear distinctions between the claimed invention and the Diab reference, it is respectfully submitted that Diab, even in combination with Wang and Czaja, cannot render the claimed invention obvious.

#### **Arguments with respect to claims 25 and 32.**

1. **Diab and Eom do not disclose the subject matter recited in claims 25 and 32.** Claims 25 and 32 recite “In a wireless receiver an apparatus for processing a signal which is one of the UMTS signal and GSM signal in form of digital samples appearing at a sample rate”. Diab discloses a multi-channel signal demodulation apparatus used in a pulse oximetry system. And Eom discloses an echo path delay estimating apparatus and method for estimating the echo path delay and canceling an echo. Eom does not disclose an apparatus or method to process a signal in form of digital samples appearing at a sample rate.

2. **Diab does not disclose the decimator recited in claims 25 and 32.** The decimator recited in claims 25 and 32 must be “for bypassing the signal when the wireless receiver is a UMTS receiver and altering the sample rate of the signal when the wireless receiver is a GSM receiver”. That is, the claimed decimator is used by the GSM receiver. In contrast, and as the Examiner noted in the non-final Office Action (at page 8), Diab describes the adaptive algorithm that selects the decimation rate. Accordingly, a given individual decimator in Diab is not capable of selecting the decimation rate according to GSM signal or UMTS signal. As such, in Diab, the decimator cannot be used to serve signal types for the UMTS and GSM receivers.

3. **Diab does not disclose the filter recited in claims 25 and 32.** Claims 25 and 32 recite a filter “for filtering the bypassed signal when the wireless receiver is the UMTS receiver and filtering the decimated signal when the wireless receiver is the GSM receiver”. That is, the claimed filter is configured to filter different type signals based on the UMTS receiver or the GSM receiver. In contrast, and as the Examiner noted in the non-final Office Action (at page 8), Diab describes a set of filters that are filtering with respect to different demodulating signals and the corresponding channel mixers. Accordingly, a given individual filter in Diab is not capable of filtering GSM signal or UMTS signal. As such, in Diab, the filter cannot be configured to serve signal types for the UMTS and GSM receivers.

4. **Diab does not disclose the adjuster recited in claims 25 and 32.** Claims 25 and 32 recite an adjuster “for altering the sample rate of the filtered signal when the wireless receiver is the GSM receiver”. The adjuster only acts when the receiver is a GSM receiver. For example, when the received signal is a UMTS signal, the signal does not need the sampling process before or after the signal is filtered (see Fig. 2); but when the received signal is a GSM signal, the signal does need the sampling process before and after the signal is filtered (see Fig. 3). Diab describes a methodology that adjusts the factors of predemodulation sample compression and postdemodulation according to environmental noise, which has nothing at all to do with a UMTS receiver or a GSM receiver. Moreover, and perhaps even more significantly, Diab always requires the sample process, but the claimed invention relies on a sample process only when the receiver is a GSM receiver.

Based on the foregoing clear distinctions between the claimed invention and the Diab reference, it is respectfully submitted that Diab, even in combination with Eom and Czaja, cannot render the claimed invention obvious.

In view of the foregoing all of the claims in this case are believed to be in condition for allowance. Should the Examiner have any questions or determine that any further action is desirable to place this application in even better condition for issue, the Examiner is encouraged to telephone applicants' undersigned representative at the number listed below.

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